DOCUMENT RESUME

ED 364 213 IR 016 391

TITLE	ITV, Interactive Television: The Future Is Now: "Sharing Our Resources through Communication." Revised.
INSTITUTION	Kansas State Board of Education, Topeka.
PUB DATE	Jul 93
NOTE	27p.
AVAILABLE FROM	Kansas State Board of Education, 120 S.E. 10th Avenue, Topeka, KS 66612-1182.
PUB TYPE	Reports - Evaluative/Feasibility (142)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Color; Corporate Support; Cost Effectiveness; *Distance Education; Educational Technology; *Educational Television; Elementary Secondary Education; *Interactive Video; Pilot Projects; Productivity; Program Evaluation; School Business Relationship; School Districts; *State Programs; Teaching Methods; Technological Advancement; *Telecommunications
IDENTIFIERS	Compressed Video; *Kansas; Two Way Communication; *Two Way Television

ABSTRACT

With the advent of numerous Kansas two-way interactive television (ITV) clusters and compressed video sites, the state has set the standard in revolutionary communications methods in elementary and secondary education. Nine projects using ITV in Kansas are described. Most allow delivery of lessons to students in other communities or schools. The success of these projects is due largely to the cooperation of local businesses, including telecommunications companies, the communities, and the school systems. These 9 interactive television clusters serve 48 Kansas cities and towns at present, and network officials are working to expand their capacities. ITV is making it possible to increase productivity and cut costs, and to set higher goals in education. Expanded partnerships with education, business, health care, and other industries will create a complete two-way network in Kansas. The next step is increased public understanding to improve participation. Eleven figures and 11 color photographs illustrate the networks and the statewide use of ITV. (SLD)

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ED 364 213

ITV

Interactive Television

U.S. DEPARTMENT OF EDUCATION
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THE FUTURE IS NOW

"Sharing our resources through communication."

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Kansas State Board of Education

A message from the Kansas Commissioner of Education

Dear Kansans:

I'm very proud of Kansas and its people for the accomplishments we've made and the leadership roles we've assumed in the communications arena.

Under the leadership of the Kansas State Board of Education, in just a few short years, Kansans have changed the traditional definition of communications. With the advent of numerous Kansas two-way interactive television clusters and compressed video sites, we have set the standard in revolutionary communications methods.

This publication is dedicated to the pioneering spirit exemplified by the leaders of the Kansas educational fiber-optic clusters. I urge each reader to explore the developments explained in this publication and learn about the numerous benefits now enjoyed by many Kansas school children and rural community members.

Much has been achieved, but there's more to do. Additional networks have yet to be established and communication lines formed to begin sharing resources. With greater expansion, we can begin to break down more communication barriers and challenge traditional limitations. We're closer to bridging the communication gap. Kansans are still moving forward.

Sincerely,

Lee Droegemueller
Kansas Commissioner of Education

Protection • Coldwater • Haviland • Meade • Minneola
Fowler • Mullinville• Greensburg • Plains • Ashland

Education leaders from four southwest Kansas school districts set out to raise the level of expectation for their students and communities. Their goals:

- to create new learning opportunities for students
- to build a win/win partnership with business and industry
- to bring communities closer together while reducing the travel between towns.

To reach these goals, the group invested in two-way interactive television.

The building process

Area superintendents James C. Chadwick, Coldwater; Larry Wade, Haviland; Dale Moody, Ashland; Glen Hughes, Mullinville; Jim Miller, Plains; Bob Mosier, Greensburg; Dannie Clodfelter, Meade; and Fran Seybold, Fowler, discussed the possibilities available through the use of this new communications medium, ITV.

The group of superintendents agreed that typically, smaller schools couldn't afford to have teachers for subjects that weren't drawing many students each day. However, creating the ITV network allowed surrounding schools to pool students and teachers.

With the cooperation and foresight of several area school leaders, the group created the Advanced Photonics Linking Unified Schools, otherwise known as the "A-PLUS Network." Members hired former educator Dick Unruh as the director whose full-time responsibilities would be devoted to the creation, maintenance and expansion of the ITV project.

A tie between education and business

To begin the project, A-PLUS officials were awarded some state and federal grants. These funds enabled the network to help pay for the cost of the cables as well as provide initial ITV classroom equipment.

To get the network operational, A-PLUS needed the help of business to provide needed services while business was looking for new avenues to more clients. The ITV project provided the perfect marriage between the two.

What's in it for business?

"Businesses are seeing a bright future with the introduction of ITV in education," Russ Phelps said. Phelps, Regional Account Manager for Southwestern Bell Telephone Company, Topeka, said ITV was a service his company could provide that would create better learning environments for students.

"Let's face it," Phelps added, "it's to our advantage to have the best educated kids possible."

Part of having the best educated kids meant opening doors for students—doors usually closed to most rural students.

Some students wanted to take a foreign language that wasn't regularly offered because the number of students wanting the class didn't warrant hiring another teacher. However, ITV made it possible by combining students and teachers from area schools.

Southwestern Bell is very supportive of the education of Kansas students. The phone company's foundation has been providing grant funds for innovative classroom projects for seven years. Getting involved in the ITV program fit the company's education involvement goals. Southwestern Bell believes providing services for ITV makes a big difference in kids' lives and that's an investment the company is willing to make.

"With the use of the network, these students can have educational opportunities not usually available to them. The whole project is a good venture for everyone involved," Phelps said.

Empowering the people through ITV

After A-PLUS proved to be a success in the classroom, program officials looked for ways to share the new technology with their communities.

"We saw that many of our residents were involved in our local community colleges," Unruh said, "so we approached these institutions to make plans with them to incorporate A-PLUS."

Through the use of ITV, the colleges could broadcast classes and students from other towns would only have to travel as far as their local high school to participate.

"We'll be able to offer college credit classes to our community through Pratt Community College, Dodge City Community College, Liberal Community College, Barkley College and Christian Liberal Arts College," Unruh said.

A bright future

Future plans call for a network of libraries where each library will specialize in a subject and will act as the main clearinghouse for information on that subject. However, all libraries will be linked together via computers and ITV so information can be retrieved from all sites.

Other plans call for the network to connect with lawmakers' offices in Washington, D.C., for specific use with government classes and town meetings. Elected leaders could make presentations to their constituents directly from their legislative offices.

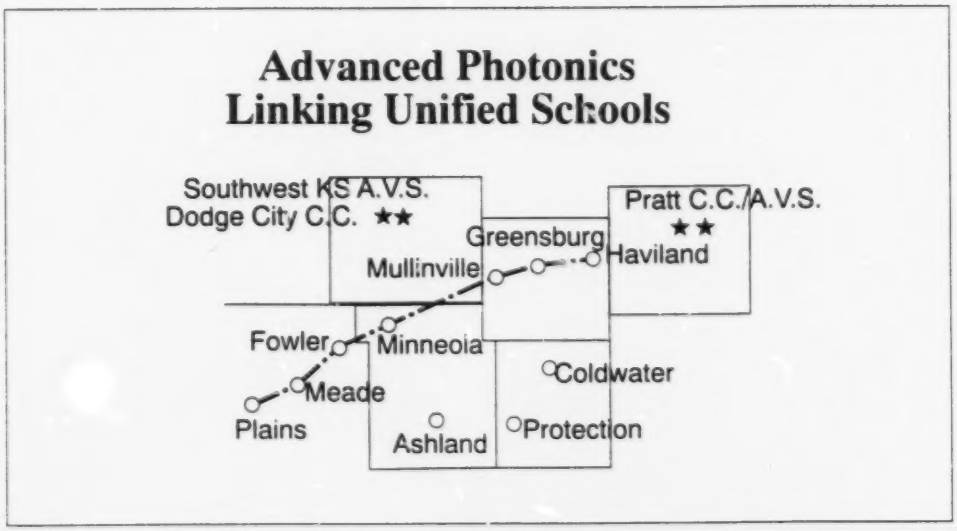
"We hope to someday be able to know what our lawmakers are thinking before we read about it in the newspapers," Unruh said.

The next move in ITV expansion in southwest Kansas goes one step farther—space.

"Eventually, we'd like to up-link to the astronauts and have them talk to our classes from space," Unruh said. "We're still looking at this from far down the road, but it's not that far!"

"Let's face it, it's to our advantage to have the best educated kids possible."

—Russ Phelps
Regional Account Manager
Southwestern Bell Telephone Company



The stability of a rural community is crucial to much of the success of its business and education.

Two Kansas local telephone companies, H & B Communications and Wilson Telephone Company, recognized this fact and didn't want to see their communities and education institutions wither. They knew two-way interactive television would help prevent this from happening.

Keeping a community alive

"Our primary drive in the Cenkan ITV project was to maintain the viability of our school system," Robert Koch said. Koch is vice president of H & B Communications, an independent telephone company in Holyrood.

"We wanted to be sure to keep the schools intact because we didn't want to see any consolidation," Koch said. "We saw ITV as a means of keeping our community alive and together."

Koch and Bob Grauer from Wilson Telephone Company went to the schools and presented their vision for the future of the community and school systems which included an ITV network.

"We knew ITV was happening in Kansas and we knew it would be a good program for our communities," Koch said.

Their ideas were met with enthusiasm by school officials. Lorraine Superintendent Gene Linton said his schools already were working with nearby school district, Claflin, to teach Spanish to students.

"We were using a satellite hook-up with Claflin to have their teacher provide instruction for our students," recalled Linton. "We could readily see the value of sharing teachers and curriculum. The ITV project could really expand on a good concept."

"We saw ITV as a means of keeping our community alive and together."
—Robert Koch, Vice President
H & B Communications

Putting the plan into action

The two independent telephone companies had previously laid the necessary fiber-optic cables.

"Because the cables were there, it was a natural to getting the schools started," Koch said.

The Lorraine and Claflin schools leased transmission equipment and classroom equipment from the two telephone companies for a studio at Quivira Heights High School in Bushton and Claflin High School.

"In our first year with the complete system, operations went very well and we got a lot of positive feedback from the students and teachers," Linton said. "Now we've added the Wilson schools to our cluster and we continue to expand our capabilities."

The students and teachers weren't the only ones commenting on the system. The coaxial cables were provided by H & B Communications who also served the community with home cable television. Because of this link, H & B Communications was able to broadcast some the the high school classes to the community.

"We heard praises from our community and school district patrons about the new ITV program. It was nice to see how well the program was received by the people," Linton said.

Opening the communication lines to the people

The Cenkan ITV program is still relatively new and doesn't have a complete community involvement program. However, network officials have some pretty good ideas about how they can serve their neighbors.

"We'd like to see our network linked to Barton County Community College and Kansas State University," said Linton. "If we had that link, our people could participate in courses from here."

In addition, staff development programs and inservice presentations could be given using the network, thus eliminating a lot of travel time and costs.

"Constant training is so important for people to keep up on the latest developments in their fields and to adapt to the changing needs of their industry," Linton said. "For example, we want our teachers and administrators to be able to take part in classes given at the community colleges and major universities in Kansas."

Koch envisions the ITV system to be used by everyone in the community, not just the schools. He said he'd also like to have local law enforcement officials take part in training using the network.

Moving to the next step

Continuing to expand the network is at the top of the priority list for network officials.

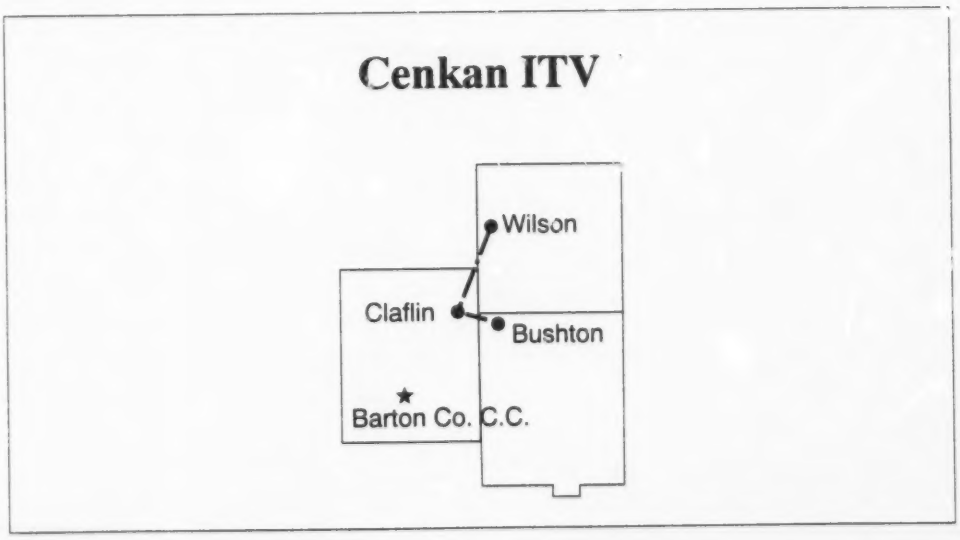
Koch and Linton envision local businesses using the system for consulting services and the medical industry reaching specialists without traveling to larger cities to receive services.

Educators and business leaders also are exploring a partnership where business professionals teach students using the network. The proposed mentor program has the support of local businesses which is paramount to education.

"Local businesses are always willing to help us and we're excited to be able to do things for them too," Linton added. The technology is available today, but they are working on funding the project.

Network officials have had the full support of their business partners regarding expansion plans.

"We've enjoyed working with the school districts," Koch said. "It's been a winning situation all the way around." ■

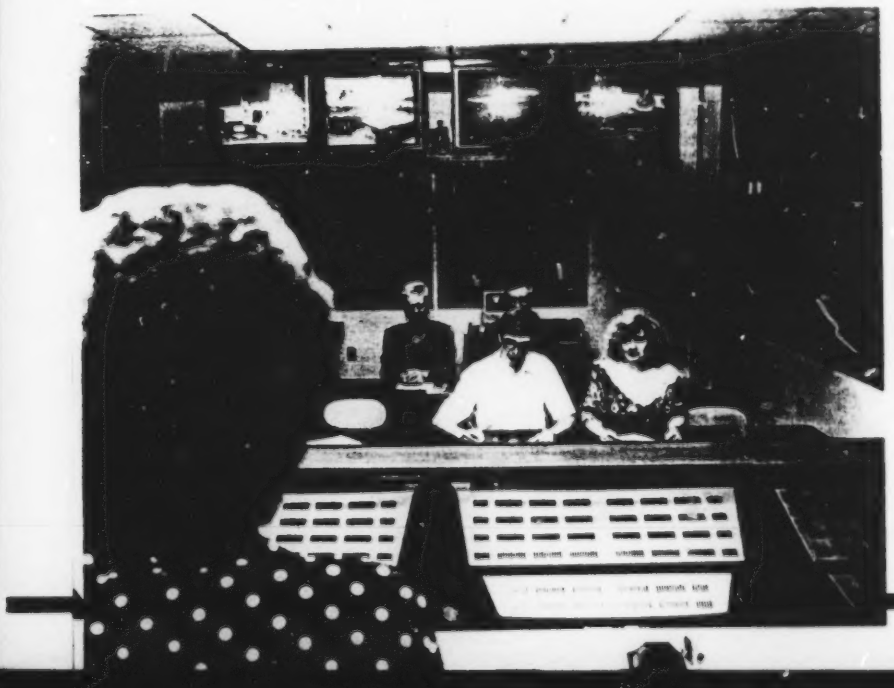


Elkhart • Rolla • Hugoton • Moscow • Ulysses • Syracuse
Satanta • Sublette • Dodge City • Lakin • Deerfield • Hays

Ten education officials from southwest Kansas decided to unite forces and devise a method to make their education community a state-of-the-art learning environment. The result: the High-Southwest Plains Network (HSPN).

Thanks to the members of the driving force behind the network plans and vision, HSPN got a healthy start. The original planners for the program included:

- Phil Johnston, superintendent, Elkhart
- Neill Hays, superintendent, Rolla
- Nelson Bryant, superintendent, Hugoton
- Bruce Kienapfel, former superintendent in Ulysses
- Dennis Thompson, superintendent, Satanta
- Don Nelson, former superintendent, Moscow
- Bill Jones, superintendent, Deerfield
- Ernest McClain, superintendent, Lakin
- Gary Marshall, superintendent, Sublette
- Don Nigus, former director of special education at the High Plains Educational Cooperative, currently director of the Southwest Plains Regional Service Center.



Making the possibilities a reality

"We were looking at a host of win/win propositions," Nigus explained. "We had a dream that would drastically reduce our staff's travel, enhance the school curriculum, and bring the community into the schools to reap the benefits of new technological communications. HSPN had the potential to make everyone happy."

"Our program was not intended solely for the school districts' use. We want to get our communities and area businesses involved too."

—Don Nigus
Director, Southwest Plains Regional Service Center

Another two-way interactive television program which proved to be successful already was established in a nearby community across the Oklahoma border.

"It was like a farmer who looked over his fence and saw that his neighbor had something he wanted," Nigus recalled. "Our neighbor's program provided us an incentive and a source of advice."

With the enthusiasm of the original planners and the support of their communities, plans were set into motion for this challenging yet rewarding network. Multiple agencies, telephone companies and cable television companies in the area began collaborating and cooperating to establish not only the network, but also the curricula for the school districts.

Their diligence paid off when one hundred and sixty miles of fiber-optic cable provided the connecting network for the first phase of installation. The impact

was immense on restructuring education for the sites of schools and agencies in this cooperative.

Taking it to the people

The High-Southwest Plains Network has worked hard to meet the needs of its clients—the community.

"Our program was not intended solely for the school districts' use. We want to get our communities and area businesses involved too," Nigus said.

Nigus explained that HSPN has managed multiple-agency program scheduling for the past two years. Educational, community service and business continuing education services are facilitated by the computer-generated system operated by the management staff of the Southwest Plains Regional Service Center. Scheduling adjustments and refinements are quickly made to accommodate a wide variety of program schedules on a regular basis.

Since the network's inception, numerious regional library meetings have been transmitted to the public and school librarians in southwest Kansas. One hundred and ten southwest Kansas bankers have been provided continuing education classes on the network. Local certified public accountants and petroleum engineers as well as numerous regional scout leaders are using the network during the summer. Other groups anticipating future use include the University of Kansas Engineering Department and the Kansas State University Extension Service.

Added technology and using AT&T fiber will provide businesses access to HSPN's already established business continuing education services. With connections and lease options available in Overland Park, Kansas City and 1,100 rooms in 35 countries, facilities are available for global interaction.

Ready for tomorrow's challenges today

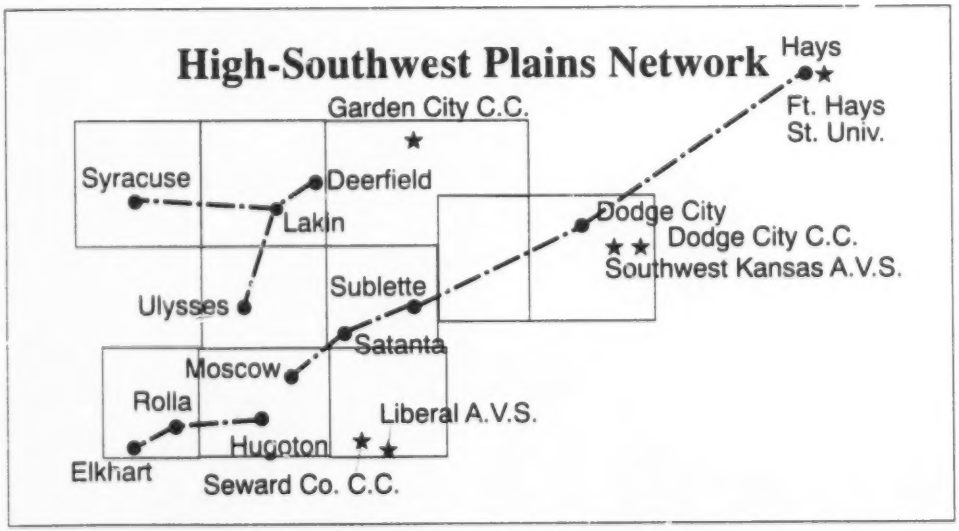
HSPN has extended its networks to two area hospitals in addition to the Garden City Community College while the Seward County Community College which will be connected by early 1994. HSPN also has reached out to connect with several state universities.

Final diplomatic arrangements have been negotiated to provide a "French Connection" with the American School in Paris, France. A joint language and social studies course facilitated by two-way interactive telecommunications will be provided for French and for southwest Kansas high school students.

With the partnership established between HSPN and area business leaders, Nigus is confident that the next expansion will be an even greater service to school children, the community and business.

In a few short years, rural southwest Kansas will have expanded its telecommunications capability to global interactions.

Where next? According to the network officials, they'll settle for "outer space."



Natoma • Palco • Kensington • Hays • Phillipsburg
Lenora • Logan • Agra • Victoria • Plainville

For many years rural students had to settle for limited learning opportunities simply because of their small numbers.

Tired of accepting the status quo, education and business leaders in northwest Kansas decided to change the paradigm. They believed two-way interactive television would be a tool to accomplish that goal while providing a multitude of benefits to rural communities and local businesses.

The building begins

The school districts involved in tackling the ITV proposal included Paradise, Palco, West Smith County, West Solomon Valley, Eastern Heights, Logan and Victoria.

Some schools were using satellite transmission for distance learning; however, it only provided one-way video communication between the sites. With ITV, two-way video communication was available therefore creating a better learning experience for students.

The ITV program, which would later be named Interactive Consortium Academic Network (I-CAN), was dedicated to providing additional educational opportunities for the school students, staff members and community.

I-CAN addressed a major concern for educators by creating a means to fulfill mandated curriculum requirements for subjects such as foreign languages and components of Quality Performance Accreditation. Another benefit obvious to superintendents was the ability to train and retrain staff using the network.

What's good for education proves good for business

"We knew where we wanted to go with the ITV project, but weren't sure exactly how to get it done," recalled Lesta Jaggers, I-CAN Coordinator. "That's when Rural Telephone stepped forward to help provide options, services and eventually, a valuable school/business partnership."

Rural Telephone Service Company, Inc. was an advocate in preserving the rural community and quality of life it came to represent. As a local telephone company, Rural Telephone was able to provide the schools a $60,000 grant which furnished fiber- optic cables and equipment for the ITV classrooms.

"Rural Telephone is a local business and understands the plights of small schools as well as the benefits a rural education can provide," said Rod Wallgren, Rural Telephone official. "We were just as interested in the ITV program as the educators. We knew it would open new doors for the students and other area business too."

"We never intended it to be a single-purpose network," he said. "The more people using it, the more it contributes to the quality of rural life."

I-CAN brought businesses and education together like no other project undertaken by the schools before.

Jaggers said, ". . . we realize we can't keep our schools open if we don't keep our business thriving and vice versa. We see our new facility as a way to get businesses more involved in the schools and community. After all, everyone has a vested interest in everyone else's success."

"We never intended it to be a single-purpose network. The more people using it, the more it contributes to the quality of rural life."

—Rod Wallgren
Rural Telephone Company

More community opportunities

Many small communities have very close ties to their community colleges for a variety of reasons. These higher education institutions provide additional educational opportunities, consulting services and training for a variety of occupations.

In its first year of operation, I-CAN opened its doors to the community by providing parenting classes to the public while about 40 parents with college-bound students attended a meeting about college financial aid.

I-CAN is currently connected to Fort Hays State University; however, network plans call for adding Colby Community College, Cloud County Community College and Barton County Community College.

"These community colleges can offer dual credit classes to our patrons which is something in which the public has expressed an interest," Jaggers said.

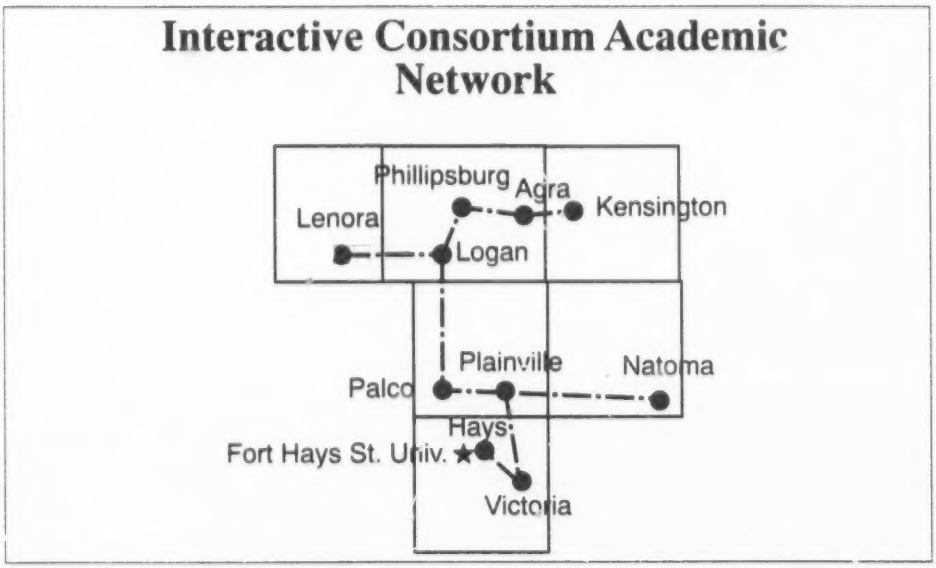
Expanded use just around the corner

Local civic groups are exploring the possibilities of the new system to expand the communication potentials of their organizations.

"We're receiving a lot of requests for the use of I-CAN with groups like the Lions clubs," Jaggers said. "With the sudden popularity of our facility, we decided to conduct an assessment on the ways we can market our system to many groups. We believe we have something here that brings benefits to any business or community group."

I-CAN plans to discuss with the local medical groups the possibility of their facility's use for allied health training and consultations with specialists from larger cities.

Jaggers said, ". . . developments with I-CAN have gone so fast and I don't expect things to slow down from here. But you can bet, we're ready to keep that pace." ■



Seeing is believing, which is the first step to making changes.

That's what education officials in northwest Kansas found to be true after they got a glimpse of two-way interactive communications. Obviously the applications for education were incredible and no one could argue about the benefits to students.

"Two-way interactive television was the genesis for a multitude of expansions for all of northwest Kansas," according to Jack Reed, executive director of the Northwest Kansas Educational Service Center. "Enhancing the curriclum offerings to students was a top priority, but ITV also was the gateway to economic growth for our part of the state."

Schools, working with local government agencies and health care institutions, brought training and communications capabilities to area businesses.

"Using ITV as an economic development initiative helped us in creating a learning community for all people—not just those attending our public schools. Today, we are a major part of the growth of northwest Kansas," Reed said.

Establishing aggressive goals

President George Bush wasn't the only one talking about competing in a global market. Educators, like those in northwest Kansas, were making changes to prepare their students for life in an ever-changing and expanding society.

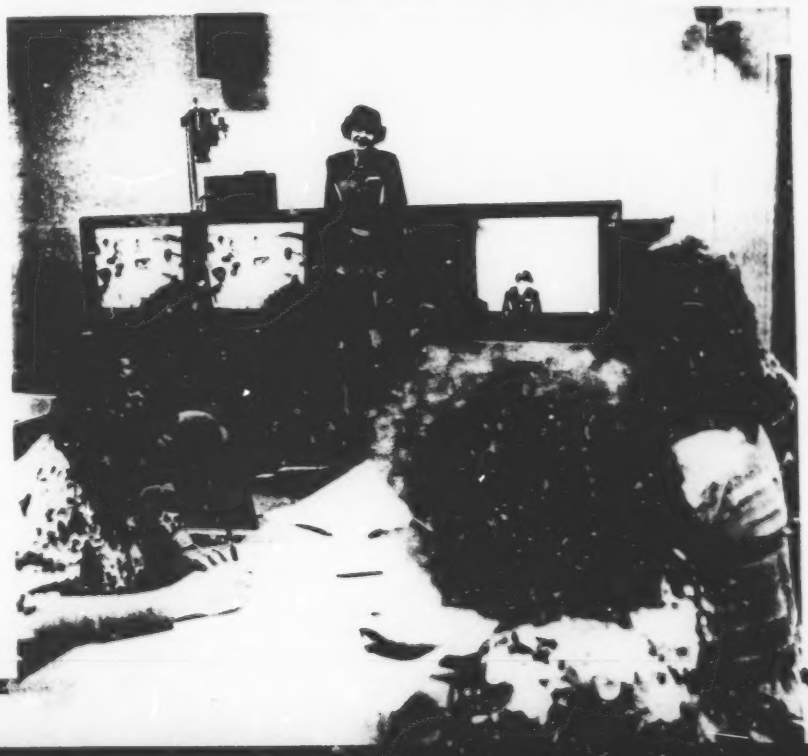
A planning committee, comprised of area superintendents and other area educators, made an aggressive list of strategic goals for the new system. For example, in the first five years, the planning committee wanted to see students participating in courses and interacting with others internationally.

"We wanted to have a teacher in Japan teaching our kids, not a Japanese teacher instructing them here," ITV Project Director Jane Johnson said. "To effectively communicate, you have to know the language and the culture. Learning from a teacher who lives in Japan enables you to learn the culture and the language."

Network leaders see this as a major downfall of today's business people. Not knowing the cultures, they say, may mean the difference between establishing good working relationships with other countries or simply talking to them.

"Using ITV as an economic development initiative helped us create a learning community for all people—not just those attending our public schools."

—Jack Reed, Executive Director
Northwest Kansas Educational Service Center



Breaking ground

Launching the ITV program was more difficult than network officials imagined. Never having dealt with high-tech equipment, Johnson said she had a lot to learn. Fortunately she had help from people at S & T Telephone Company, Rural Telephone Company, Wilde Optical Services and Reed, Veach and Wuerman.

Bob Tupper, Reed Veach and Wuerman representative, dedicated a lot of time and interest in developing the program. He became what Johnson viewed as a "natural teacher."

A new set of standards and goals

Before long, the fiber-optic connections were complete and accommodating a full class schedule.

But program leaders weren't satisfied. Even while the program was in its infancy, plans were being discussed for expansion. The network was working well in the classroom and network officials felt it was time to expand their services into the community and business arenas. There was a pronounced need for consulting and training services; and long-range plans for the network were to establish a "business mall." Its purpose would be to make connections to consulting services for groups such as the Kansas Bar Association, Telemedicine, and hospital workers and providers. Teleconferencing could be utilized in discussing medical applications and viewing demonstrations.

But for network officials, this was just the beginning. Plans also called for the ITV program to expand into areas outside the Kansas boundaries.

"We want to bring in key community leaders from the four surrounding states and have a conference targeting various technological businesses such as telemedic workers and agra-tech organizations. We want to show them how we can assist them," Johnson said.

Today, more and more of these things are actually happening.

Yet, there are more ideas for ITV uses in education according to Johnson. One of her challenges, she says, is to explore ITV uses in vocational technical schools.

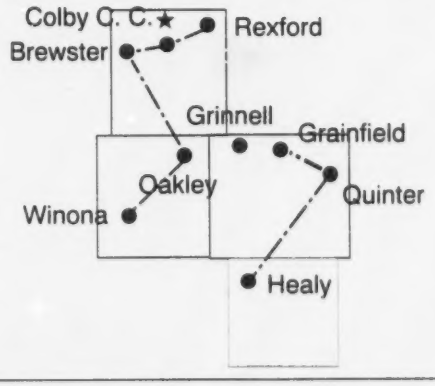
"I believe there is a tremendous need for ITV in vocational training," she said. "I see the need to have our vo-tech departments restructured so they can look at the union developing between industry and the vo-tech training institutions."

Ultimately, Johnson would like to see ITV used as a tool to complement a "mentor/apprentice" relationship between vocational technical students and industry professionals—who also are potential employers.

Working hand-in-hand with the rest of the northwest Kansas community, Reed said the schools are helping school children, businesses and local citizens.

"Our impact has already been vast and we haven't even scratched the surface yet. This technology has opened everyone's creativity and people are reaching out to each other in ways unheard of until now." ■

Northwest Kansas Educational Service Center Eastern Cluster



Simply put—schools can provide students with more educational opportunities and a better learning environment while saving money.

Just a few years ago that statement wouldn't have been much more than an unrealistic dream. But, with the revolutionary technological development of distance learning through interactive television, that statement is not only a possibility—it's a reality in Kansas schools.

For the South Central Kansas Educational Network, their dream became a reality on April 13, 1992, when their system officially became fully operational.

The beginning of a great idea

In 1991, Dr. Pat McAtee, president of Cowley County Community College, met with several area education leaders to discuss the potential of bringing ITV to south central Kansas. With the support and leadership of the community college board of trustees, the local education service center and local boards of education, the proposal for creating an ITV network was endorsed.

The South Central Kansas Education Service Center, based in Mulvane, Kan., received a matching grant from the State of Kansas to cover part of the expense of the network. The grant application was written by Dr. Pat Stephens, director of the service center. As a result, four area school districts—USD 360 (Caldwell), USD 356 (Conway Springs), USD 358 (Oxford), USD 463 (Udall)—entered into an agreement with the Cowley County Community College to form what is now called the South Central Kansas Education Network.

Through a competitive bidding process, five telephone companies won the bid and the service center signed a 10-year contract to lease the video network. The contracting telephone companies included Southwestern Bell Telephone Company and four local telephone companies: Kan-Okla, Haviland, United and Wheat State.

Gary Detwiler, the video network's administrator based at Cowley County Community College, likes the idea of leasing the network because the telephone companies take care of the maintenance.

"Since the technology is relatively new and changing rapidly, we believe we can better maintain and upgrade the service to meet the school districts' needs by leasing, rather than buying," explained Detwiler.

The 141-mile fiber-optic cable network allows students at each of the connecting sites to hear, see and learn in color and in full motion. The ITV program was one of the first clusters of schools in the country to be linked to a community college.

"The network lets teachers share their expertise in other classrooms," explains Stephens. "It lets us bring new curricula to the students in such areas as foreign language, advanced mathematics, science and humanities."

Stephens eventually expects to offer professional seminars and continuing education courses and other instructional services through the video network.

"Our goals are to provide instruction and service to students with special needs, build curriculum offerings, provide community and adult education classes and increase the sharing of resources among the participating schools," Stephens said. "Pooling our resources helps because no one district can provide all the course work separately."

Exploring community involvement

Even though the network is still new, network officials are enthusiastically tackling the issue of community involvement in the program.

The link to the community college has a wealth of possibilities to strengthen community ties. In fact, Detwiler is already thinking ahead to the future and how the college can best serve its patrons.

A possibility for college growth, says Detwiler, is to reach people who work in the home or have small children and can't easily come to the college for class.

"Our system is still very young, but someday I want us to be able to transmit our courses to the homes," he said. "People could participate directly from their living room or kitchen."

Currently, education courses seem to be the most popular use of the ITV systems. Using the network's video-conferencing capabilities, local businesses and organizations will have a new way to teach.

For example, the American Bar Association is concentrating efforts on using ITV systems to transmit continuing education courses to local attorneys. Staff development sessions are being explored as possible transmissions for south central Kansas companies like General Electric, Rubber Maid and Conoco.

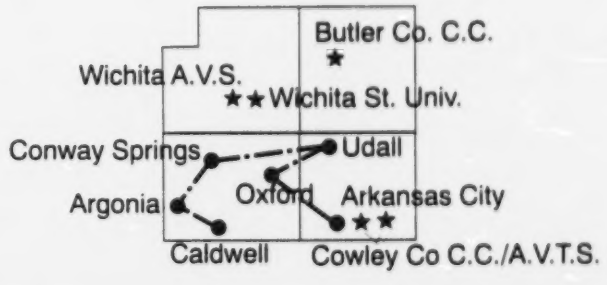
Other plans for expansion already are underway. The Cowley County Community College is building a new Art, Science and Technology Building complete with a video conference facility. Detwiler said this will serve as another place for business and industry in the area to interact with areas outside the community.

With this network, Detwiler adds, the administrators can accomplished virtually anything using ITV.

"It's the wave of the future," Detwiler said. "We now have a gateway to and from anywhere in the world." ■

"Our system is young, but someday I want us to be able to transmit our courses to the homes."
—Gary Detwiler, Coordinator of Interactive Video, Cowley County Community College

South Central Kansas Education Network



What started as a way to improve education, turned out to be a complete new way of life for schools, businesses and communities in southeast Kansas.

In 1989 two-way interactive television was virtually unheard of in Kansas. However, at the suggestion of education commissioner Dr. Lee Droegemueller, David DeMoss, director of the Southeast Kansas Education Service Center, traveled to Minnesota to see how this communication tool was being used to enhance educational opportunities in rural communities.

After seeing the operation, DeMoss could readily see the possibilities for such an operation in southeast Kansas.

"The availability of expanded curriculum was severely limited to us, but ITV could change that," DeMoss said.

A network linked to several schools would allow participants to combine financial resources, teaching staffs and students. With more students and a larger staff, schools could offer more courses to students—courses higher education officials were expecting students to have mastered before they went to college.

Getting down to business

DeMoss and area superintendents gathered to discuss the project and how their schools would be involved. Those educational leaders included Dr. Bill Biggs, Arma; Dr. John Battitori, Girard; Dr. Thomas Woolbright, Cherokee; and Larry Reynolds, Columbus. At the conclusion of their talks, the newly-formed team constructed an action plan outlining how each district would contribute to building the network.

DeMoss said the most successful way to start building such a network was to have a willing telephone company partnership. That's when local telephone company CRAW-KAN answered the call.

"We look at IDL as a service for all of southeast Kansas. If you help your community, you're helping your school districts too."

—Deanna Grotheer, IDL Distance Education Coordinator

CRAW-KAN's general manager, Lyndell Hurt, saw the ITV system as a valuable resource to more than just education. He met with his board of directors and explained his vision for the use of ITV as a viable tool for schools, the medical industry and the economic development of the communities in southeast Kansas. With the support of his board, CRAW-KAN officially became a member of the ITV team.

CRAW-KAN and Hurt's support played key roles in the development of the program, which would later be called The Southeast Kansas Interactive Distance Learning Network (IDL).

"Without their feelings that ITV would contribute to the rural vitality in the business communities, this program wouldn't have happened," DeMoss said.

CRAW-KAN also worked with Columbus Telephone Company to build the network.

Southeast Kansas Interactive Distance Learning Network

With funds provided to the service center from several Kansas State Board of Education grants, the local phone companies worked with local school districts and the service center to install fiber-optic cables linking four high schools. In January 1991, IDL went on-line with full-motion analog communication.

Using IDL to help others

Network officials opened their facility's doors to the community. Groups like firefighters and law enforcement officers have used IDL for training their employees.

Deanna Grotheer, IDL Distance Education Coordinator, works closely with local groups using the system. Community involvement is a link, Grotheer says, the network can't neglect.

"We look at IDL as a service for all of southeast Kansas," Grotheer said. "If you help your community, you're helping your school districts too."

IDL has recently expanded further with the addition of equipment enabling the network to utilize a compressed signal. Using traditional telephone lines, this technology can link IDL to other sites outside of those already connected with the fiber-optic cables.

Teamwork creates opportunities for all

Grotheer has seen the ITV enthusiasm spreading, and says everyone seems to be asking how they can fit ITV into their everyday routines.

The benefits reaped by education now are sought by business. The savings in time and travel costs are substantial enough to lure businesses into the ITV arena.

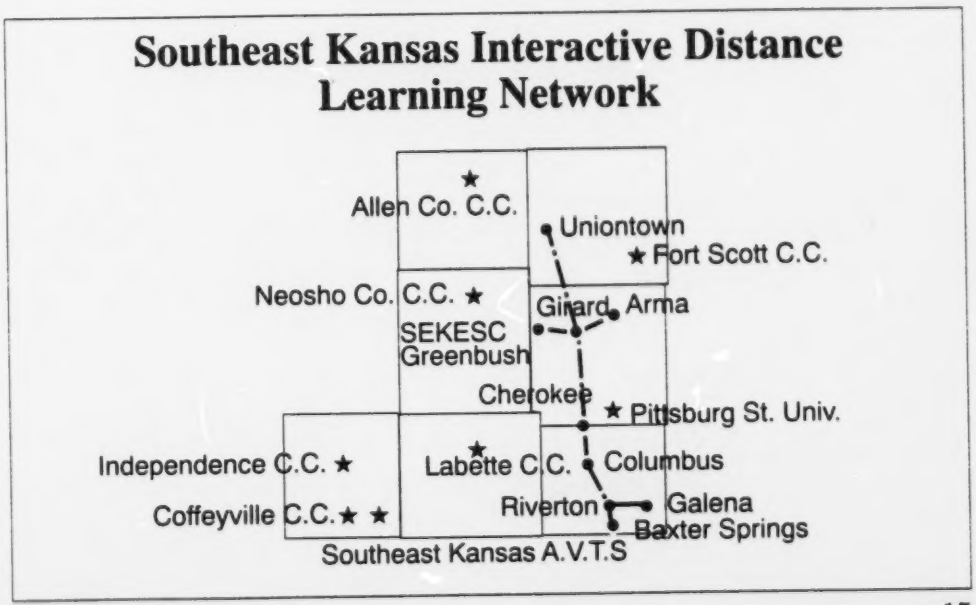
"If a southeast Kansas company needs to talk to its corporate headquarters in another city, why would they travel there when they can do it from Greenbush instead?" Grotheer said.

Area medical professionals like the system because they can confer with specialists from the larger cities while staying close to home.

"Once we brought them (medical professionals) in to view our facility, they liked what they saw," said Grotheer. "So, they built their own and now we work together on various projects while our combined efforts are a plus to our community."

DeMoss predicts that in the next year, more hospitals than schools will be involved in ITV. It's a logical option for their industry. Small hospitals can remain in small communities while staying on the cutting edge of technology in learning new techniques and trends.

IDL officials see a lot more uses for ITV on the horizon and they have the drive to take the challenge as far as it can go. Given the teamwork between education, community and business leaders, the future holds as much as each group dares to imagine. DeMoss added, ". . . the schools are the heart of small communities and they are assisting in economic development and providing educational programs to benefit the whole community." ■



Superintendents from four central Kansas school districts met in the spring of 1989 to develop plans to pool their districts' resources—human and financial—to create a viable means of enhancing student academic opportunities and community development. The result was the establishment of The Learning Consortium (TLC).

"We knew the two-way interactive television (ITV) project would provide increased opportunities for students in our smaller schools at a drastically reduced cost to the four districts combined," Hesston Superintendent Gary Price said.

To tackle the challenge, Price met with Terry Schmidt, superintendent in Moundridge; David Grove, superintendent in Canton-Galva; and Robert Van Arsdale, former superintendent in Goessel.

"Everyone in the group contributed to the shaping of the project and assumed responsibility for each phase of its development," Price recalled. "It was the dedication of the entire group that was paramount in seeing this project get off the ground."

Making the connection

TLC leaders have dedicated the network to harnessing the power of fiber-optic technology and interactive audio-video transmission to provide useful communication between schools and communities.

"The expansion of our ITV system is allowing local patrons as well as business and industry to work with the schools," TLC Executive Director Dr. Sandra Thies said. "TLC allows our entire community to come together and grow."

TLC has provided the people it serves with access and opportunities far beyond traditional limitations. Participants now can achieve their communication and academic goals with greater ease. This learning environment has become a resource designed to enrich the lives and learning of all patrons.

"We were pleased when local firemen and EMTs approached us about using the network to provide training to fellow colleagues," Price said. "This was exactly the kind of move we were looking for to introduce them to ITV."

Working together

In addition to community interaction, an important part of TLC's vision is building relationships with area business. Even while TLC was in its infancy, project leaders worked with area businesses who, in turn, provided consulting services, construction expertise and technical information.

These relationships have evolved into partnerships providing an even wider economic impact as the capabilities of the network are extended.

Local businesses and civic groups have recognized the benefits of this two-way interaction with colleagues outside their area. Partnerships between schools have been established with groups such as:

- Local Lions Clubs
- Emporia State University
- Kansas State University, College of Veterinary Medicine
- The Prairie Window Foundation
- The Kansas Cosmosphere
- Hutchinson Community College

Bringing the nation to your front door

Not only local businesses are beginning to grasp the possibilities of this communication tool, but national groups have stepped forward to establish their link. For example, several national businesses and industries have formed a partnership with TLC to reap the benefits of networking over fiber. The businesses involved included:

- Tele-systems, Inc. (Minnesota)
- American Lightwaves Systems (Georgia)
- 3Com Corporation (Minnesota)
- Information Management (Kansas)
- Computerland of Hutchinson (Kansas)
- IBM/EduQuest of Kansas

As their contribution to the partnership, each business has donated equipment, products and services as well as financial assistance.

TLC also is exploring the possibility of participating in a wide area network with Kansas Independent Network, Inc. (KINI). This venture would provide TLC districts software leasing with KINI as a repository. KINI would handle business details such as purchases, leases, updates and copyrights.

Changes of today

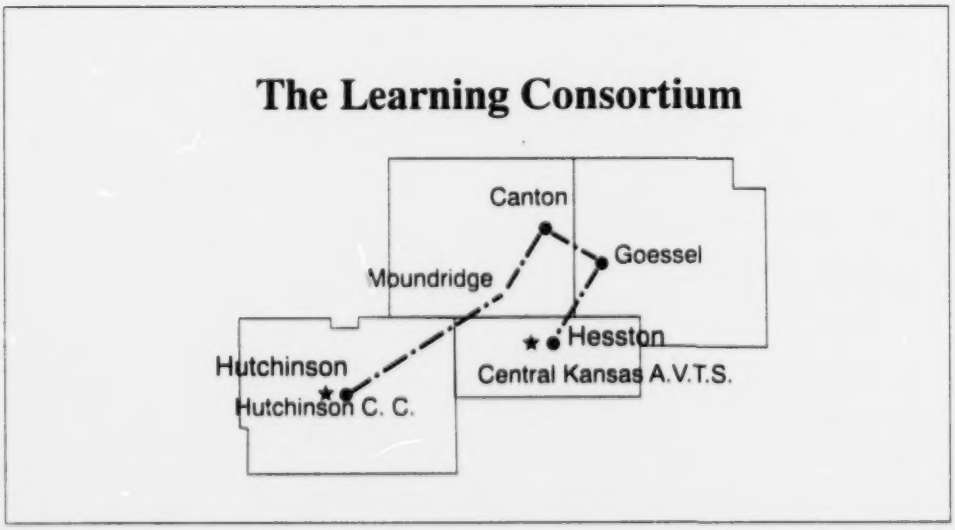
What started as a dream, the leaders of TLC have made a reality for their communities. Students are being given the chance to explore new academic areas, community groups are expanding beyond the borders of their neighborhoods, and businesses are bringing their services to their clients. More people are learning and more people are interacting as a result of TLC.

"We've come so far with this technology since TLC first started," Thies said. "Not only have we made our initial dreams a reality—we've surpassed them."

"Not only have we made our initial dreams a reality—we've surpassed them."

—Sandra Thies
TLC Executive Director

Education, community and business have formed the TLC team and together they're growing, creating and learning more than anyone thought would be possible. ■



Herington • Lost Springs Marion • Hillsboro • Peabody

Wanting to give their rural students the best academic opportunities possible, five central Kansas superintendents committed themselves to researching two-way interactive video.

Their research led to discoveries of enhanced curriculum, more community involvement in education and a partnership with area community colleges. Armed with a multitude of benefits waiting to be reaped, these five superintendents from Herington; Centre, located in Lost Springs; Marion; Hillsboro and Peabody presented their findings to their local boards of education in the spring of 1992. The presentations, in all cases, were met with enthusiasm and optimism.

"Our boards are truly dedicated to improving the quality of education for the students they serve and ITV presented them with opportunities that they couldn't pass up."

—Doug Huxman, Superintendent USD 408 (Marion)

"Our boards are truly dedicated to improving the quality of education for the students they serve and ITV presented them with opportunities that they couldn't pass up," said Doug Huxman, superintendent of the Marion public schools.

Unfortunately, finding start-up funds was a major hurdle for network officials. Grants to help offset the costs were scarce and network officials were anxious to proceed with implementation.

"Once again, our boards pledged their support for the system and agreed to financially back the plan by reallocating existing funds," Huxman said. "As a result, we've put a lot of money into this, but we can be proud to say that through a lease/purchase agreement, we will own all of our fiber cables and classroom equipment."

Technical expertise was given to the project through Tele-Systems Associates, Inc. from Hastings, Minn. With their help, the Technology Excellence in Education Network (TEEN) was officially formed and set to begin full operations with classes in the fall of 1993.

To handle the daily operations of the new network, Dr. Sharon Tatge was hired as the TEEN Executive Director. Tatge brought with her a host of ideas for a variety of applications which would benefit school students and community members alike.

"Our first priority is to enhance the curriculum for the schools and the students from the various districts," Tatge said. "There are a lot of things each school district would like to do for its students in terms of academic offerings, but because of limited budgets and staffs, it was impossible for any one district to do. However, with ITV these five school districts can work together to make the changes they need to help their students be better prepared for the world of work."

Huxman added that the new system won't be a means by which to eliminate staff positions, but rather, TEEN will expand the total education programs of each school district.

Teamwork makes project successful

Making TEEN a successful project had taken the cooperation and creativity of many people in the five communities supporting the new network.

"This hasn't been a project that any one person can take all the credit for," Huxman said. "In fact, the success of our project is credited to the fact that this is a grassroot-driven initiative."

Area school building principals have been given a lot of authority in customizing the system to meet the individual needs of their students.

"Our building principals have been given the responsibility of creating the class schedules and working out

the building details while the superintendents are responsible for budget matters and working with their boards on policy issues," Huxman said.

Young network: big ideas

Although TEEN is still in its infancy, Tatge says network officials have their sights set on connecting with areas outside of their five communities. Plans are already being formed to link with the state of Kansas' communications network, KANS-A-N. Making this link will connect TEEN with several state universities, hospitals, the Kansas State Board of Education and other Kansas school district ITV clusters.

In addition, network officials are working to create a network of libraries and computer labs.

"Using our fiber optic cables, libraries can link information by computer," Tatge said. "We plan to have each school specialize in one subject area and then it can act as a clearinghouse for that subject's information. This will be a tremendous break-through for our small, rural schools and give greater information resources to our students."

Community involvement also is a major concern for TEEN officials. Tatge said the network belongs just as much to the local citizens as it does to the school students.

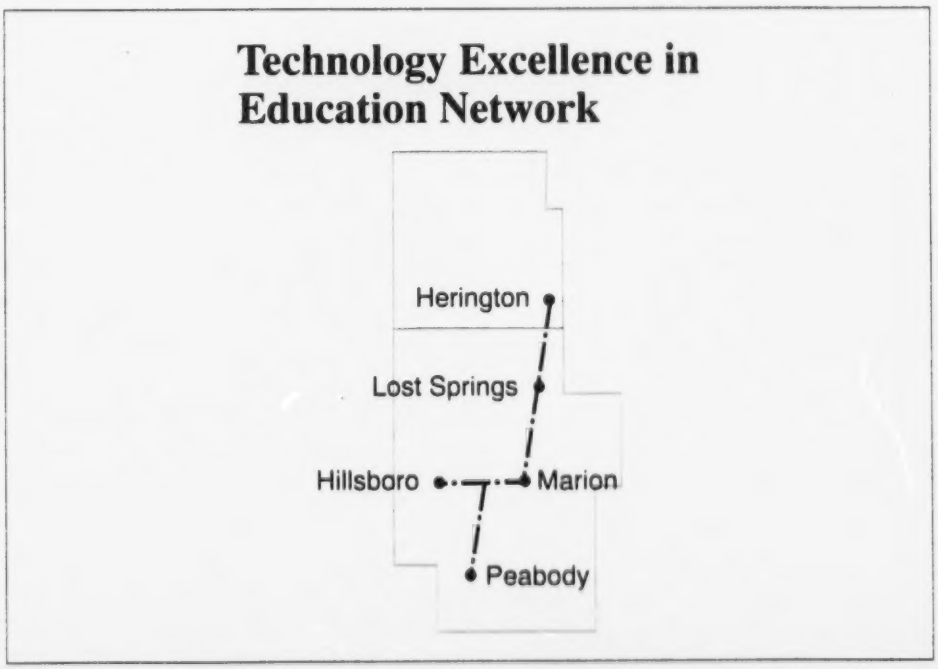
"We are excited about all of the creative plans we have underway now," Tatge added. "With all of the activities we have planned and the enthusiasm we are receiving from our communities, we should have no problem getting all people involved. From the cub scouts to the senior citizens, everyone is excited about what is happening and wants to be a part of this communication outreach."

Two local community colleges and a private college also have expressed an interest in linking with TEEN to reach their communities and provide a means to meet local education needs. Classes are anticipated for the fall and spring semesters.

Continuing to build

Although TEEN will begin its full operation with the beginning of classes in the fall of 1993, network officials are dedicating themselves to improving school and business partnerships using their ITV system.

"The TEEN board is anxious to get all five communities and area businesses involved," Tatge said. "We have pledged ourselves to working hard to meet the needs of the communities. And we know we can do an effective job of helping people meet their communication needs without going any further than our community high schools." ■



Topeka • Wichita • Greenbush • Manhattan • Hays
Kansas City • Lawrence • Salina • Pittsburg • Ulysses
Hutchinson • Paola • Ransom • Girard • Emporia • Beloit

Nearly five years ago, the Kansas State Board of Education made a commitment to improving the quality of education for Kansas school children through the use of ITV. Today, nine interactive television clusters later, the communication possibilities are booming and network officials are scrambling to expand beyond the 48 Kansas cities and towns the state board can already reach.

Similar benefits translate into increased productivity

For school districts, two-way interactive television provides an alternative to hiring more teachers, incurring travel costs and coping with a limited curriculum. Many of the same benefits apply to the state board of education.

With the use of the ITV conference room at the state board headquarters in Topeka, Kan., staff estimate that they will cut their time on the road by nearly 50 percent. That translates into increased productivity—less time on the road and more time devoted to important education programs. All this and there will be no loss of one-to-one personal contact with agency clients across the state.

As the current clusters fulfill their expansion plans—so increases the communication potential for the state board. The more connections made, the more information can easily be accessed by more people who can get the information they need to make smart and well-informed decisions. After all, the quality of education for Kansas students depends largely on the training and decision-making capabilities of school officials.

Setting higher goals

Has the state board reached its ultimate communications goal now that the state board has installed its ITV conference room?

Not according to Dr. Lee Droegemueller, commissioner of education. The ultimate goal, Droegemueller says, will never be met.

"You can never meet your ultimate goal because once you get close, you raise your standards. And that's what we're all about," Droegemueller said. "We're here to constantly raise the standards."

Droegemueller envisions this revolutionary communication technology to be available to all people.

"Access by all—that's the key. Making ITV as close as the telephone, and as common, will be a start."

So many things are changing in our society and at an incredibly rapid pace. Droegemueller says the state board realizes that the education industry and the rest of the world need to keep up with that pace. Instant communication is necessary for economic survival which goes hand-in-hand with maintaining the quality of life we all expect and deserve.

"Ultimately the standard of living will decline because our communication delivery system isn't meeting the people's needs in order to be productive in their job performance," he said.

Many people treasure the rural life which must be preserved. However, Droegemueller warned that smaller communities may die if they choose to live in isolation. Without sharing resources, the chances for small community survival are greatly diminished.

Droegemueller recognizes that Kansas has come a long way in the battle of breaking down the isolation and communication barriers. But this war can't be fought by education alone. Teamwork is necessary and the team players, according to Droegemueller, must include business and industry.

"Some local businesses have taken the lead and are working together with education and other businesses to build a community of learners," Droegemueller said. "We must become a high-skill, high-wage state in order to be competitive in the state, national and global markets. And to reach that point, everyone needs access to the fully interactive communications tools."

"Access by all—that's the key. Making ITV as close as the telephone, and as common, will be a start."

—Dr. Lee Droegemueller
Kansas Commissioner of Education

But why is communication so important?

Droegemueller says its the first and one of the most crucial steps in the lifelong learning process. To keep pace with the world's changing priorities, citizens must be able to adapt to the demand for changing work skills. Communication is the vital link that binds these components of success. With constant two-way communication, productivity will increase.

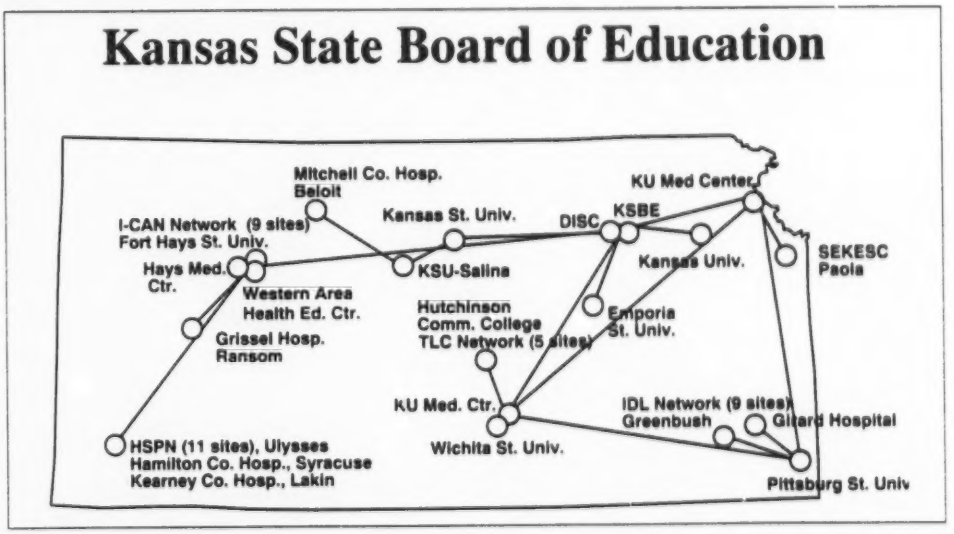
"Without proper communication, our work is bound to represent redundancy, inadequacy and will result in our making poor choices."

Partnerships with no boundaries

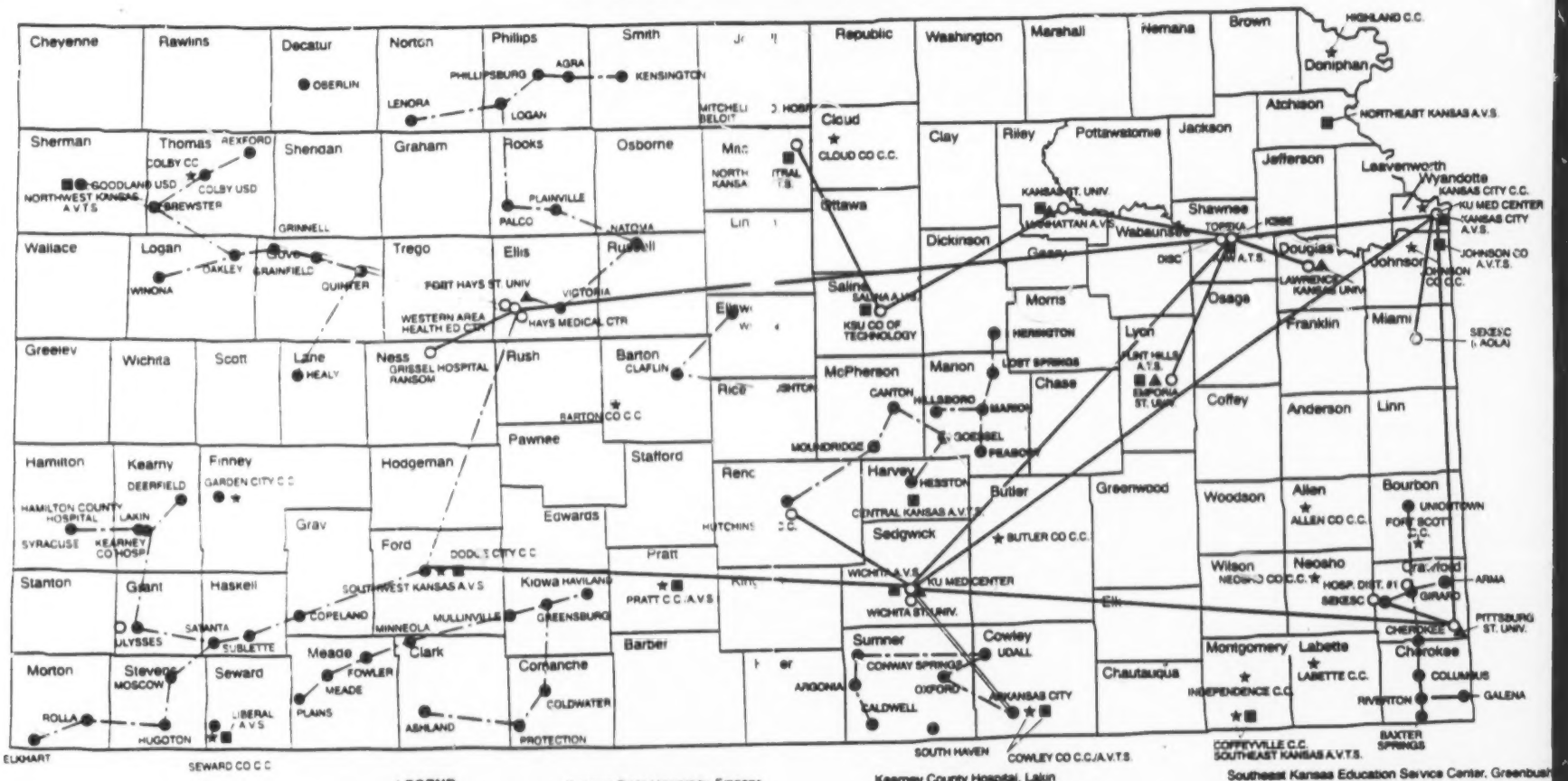
Having partnerships with education, business, health care and other industries will create a complete two-way communication network. The better the communication paths, Droegemueller says, the less chance you have for misinformation.

The next step from here, Droegemueller says, is to completely demolish the traditional mind-set barriers people have learned to accept.

"The key to complete communication means transcending the limits people allow. We have to develop a system that gives access to everyone and with no boundaries—city to city, state to state, or nation to nation. Boundaries have no meaning in a world with complete communications." ■



Full-Motion and Compressed Two-Way Interactive Video Networks



July 1993

LEGEND

- Active Full-Motion Cluster
- Future Full-Motion Site
- Compressed Video Network
- Future Connection
- Community College
- Area Vocational-Technical School
- Regents Institution
- Compressed Video Site

Emporia State University, Emporia
Fort Hays State University, Hays
Grissel Hospital, Ransom
Hamilton County Hospital, Syracu
Hays Medical Center, Hays
High Southwest Plains Network, U es
Hospital District #1, Girard
Hutchinson Community College, H nson
Kansas State Board of Education ka

Kearney County Hospital, Lakin
KSU Advanced Mfg. Institute, Manhattan
KSU College of Technology, Salina
KU Med Center, Kansas City
KU Med Center, Wichita
KU , Lawrence (2 sites)
Mitchell County Hospital, Beloit
Northwest Kansas Area Health Education Center, Hays
Pittsburg State University, Pittsburg

Southeast Kansas Education Service Center, Greenbush
Southeast Kansas Education Servi Center, Paola
The Wichita State University, Wichita

FUTURE COMPRESSED VIDEO SITES:

Capitol Complex, Topeka
Cowley County Community College, Arkansas City
KU Med Center, Kansas City (Site #2)
State Office Building, Wichita

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Revised July 1993
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